

Serial No.:10/536,743

PU020471

Listing and Amendments to the Claims

Please **rewrite** claims 1, 11, 14, 20 and 24. Please **cancel** claims 4, 19 and 23.

1. (Currently Amended) A projection system for projecting an image comprising a matrix of light pixels having modulated luminance, the projection system comprising:

a first imager configured to modulate a light band on a pixel-by-pixel basis proportional to gray scale values provided for each pixel of the image to provide a first output matrix; and

a second imager positioned and configured to receive the first output matrix of modulated pixels of light and modulate the individual modulated pixels of light from said first imager on a pixel-by-pixel basis proportional to a second gray scale value provided for each pixel of said image

wherein the first imager and the second imager differ in size.

2. (Original) The projection system of claim 1 wherein at least one of said first imager and said second imager is a LCOS imager.

3. (Original) The projection system of claim 2 wherein both of said first imager and said second imager are LCOS imagers.

4. (Cancelled)

5. (Original) The projection system of claim 3 wherein said first imager and said second imager allow different levels of leakage.

6. (Original) The projection system of claim 1 wherein at least one of said imagers is a DLP imager.

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7. (Original) The projection system of claim 2, further comprising at least one polarizing beam splitter for providing polarized light to said LCOS imager.
8. (Original) The projection system of claim 1, further comprising a relay lens system for directing modulated light output from each pixel of said first imager to a corresponding pixel of said second imager.
9. (Original) The projection system of claim 8 further comprising a projection lens assembly for projecting modulated light from said second imager onto a display screen.
10. (Original) The projection system of claim 8 wherein the relay lens system is symmetrical.
11. (Currently Amended) An image projection system, comprising:
a first imager and a second imager, the first imager and the second imager differing in size, and each of said first and second imagers comprising a corresponding matrix of pixels configured to provide a light output modulated proportional to a gray scale value provided for that pixel, said projection system being configured such that a modulated output from a particular pixel of said first imager is projected onto a corresponding pixel of said second imager; whereby the light output of a particular pixel of said second imager is proportional to both the gray scale value provided for that pixel and the gray scale value provided for the corresponding pixel of said first imager.
12. (Original) The image projection system of claim 11, wherein at least one of said first imager and said second imager is a liquid crystal on silicon light engine.

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13. (Original) The image projection system of claim 11, further comprising a relay lens system for directing light output from the particular pixel of said first imager onto the corresponding pixel of said second imager.

14. (Currently Amended) A light projection system comprising:
a first imager having an array of pixels, each pixel providing a modulated light output of intensity proportional to a selected gray scale value for that pixel;
a second imager having an array of pixels corresponding to said array of pixels in said first imager, each pixel providing a light output of intensity proportional to a modulated light output of a corresponding pixel in said first imager and a selected gray scale value for that pixel; and
a relay lens system directing modulated light output from each pixel of said first imager to a corresponding pixel of said second imager
wherein said first imager and said second imager differ in size.

15. (Original) The light projection system of claim 14 wherein at least one of said first imager and said second imager is a liquid crystal on silicon reflective light engine.

16. (Original) The light projection system of claim 14 wherein at least one of said first imager and said second imager is a digital light pulse imager.

17. (Original) The light projection system of claim 14 further comprising a projection lens assembly projecting modulated light from said second imager onto a display screen.

18. (Original) The light projection system of claim 14 wherein the relay lens system is symmetrical.

19. (Cancelled)

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20. (Currently Amended) A two-stage projection system comprising:
a first stage having one or more imagers for modulating light on a pixel-by-pixel basis;
a second stage having one or more imagers for modulating light on a pixel-by-pixel basis; and
a relay lens system projecting the output of the pixels of the first stage imagers onto corresponding pixels of the second stage imagers; and
a half-wave plate disposed between the first stage and the second stage.

21. (Original) The two-stage imager of claim 20 wherein the first stage comprises three imagers for modulating red, blue, and green light, respectively and an architecture configured to direct light of the desired color to each imager.

22. (Original) The two-stage imager of claim 21 wherein the second stage comprises three imagers for modulating red, blue, and green light, respectively and an architecture configured to direct light of the desired color to each imager.

23. (Cancelled)

24 (Currently Amended) The two-stage imager of claim ~~23~~ 20 wherein the half-wave plate is disposed at the system stop of the relay lens system.

25. (Original) The two-stage imager of claim 20 wherein the relay lens system ensquares at least about 50 percent of the energy from a particular pixel of a first stage imager onto the corresponding pixel of a second stage imager.

26. (Original) The two-stage imager of claim 20 wherein the relay lens system provides a distortion due to field curvature of less than about 0.5 percent.